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**Arvind Kumar Bharati**  
Department of Agricultural  
Extension and communication,  
Research Scholar, Bhagwant  
University, Ajmer, Rajasthan,  
India

**Amit Kumar Mishra**  
Department of Agricultural  
Extension and communication,  
Faculty of Agriculture Science,  
Bhagwant University, Ajmer,  
Rajasthan, India

## Socio economic background of vegetable and non-vegetable growers in the Bundelkhand region

**Arvind Kumar Bharati and Amit Kumar Mishra**

### Abstract

The present experiment entitled “A comparative study of knowledge and adoption behaviour of vegetable and non-vegetable growers in Bundelk and Region”. The present investigations were thus, proposed on communication vegetable and non-vegetable growers with the following objectives: was carried out during *Rabi* 2018 and 2019. In this investigation attempts to scrutinize the socio-economic profile of vegetable farmers of Bundelkhand region of Uttar Pradesh having five tehsil *i.e.* Jhansi, Mauranipur, Garautha, Tehroli and Moth and There are eight development block *i.e.* Eight Blocks *i.e.* Babina, Badagaun, Bamaur, Bangra, Chirgaon, Gursarai, Mauranipur and Moth and There are 4 constituencies *i.e.* Babina, Jhansi. Nagar, Mauranipur and Garautha in Jhansi District were purposively selected having potential of vegetable production and strategic location near the city area of Jhansi to fulfill the local demand of fresh vegetables. Vegetable growing villages 4 from each selected block were purposely selected. For this study 125 commercial vegetable growers having minimum 5 years of experience in vegetable cultivation were selected randomly. To collect information a schedule was specially developed. Participatory constraint analysis method was utilized where the respondent farmers were asked to mention the constraints, place the constraints in a four point continuum and rank them. The findings of the study reveal that, the Personal socio attribution of the respondents On the basis of age, vegetable farmers (45.6%) were in 22-58 years old middle manage group, On the basis of education a higher percentage of (27%) of respondents possessed high school, On the basis of land holding size Investigated depicts that 47.2 percent of vegetable farmers were having 1.0-1.5 ha of land thus belonged to small farmers category, On the basis of Social Participation, vegetable farmers were the member of one organization are low (1-10) 24.8 percent On the basis of Farm Power, vegetable farmers (50.0 percent) had have low level of farm power. On the basis of farm material process, vegetable farmers farmer majority (46.0 percent) had have low (up to 10) level of farm power, Responsible of the physical attributes, On the basis of responsible of economics, vegetable farmers majority (38.4 percent) had have medium (31 to 36) level of farm power, On the basis of scientific orientation, vegetable farmers majority (53.5 percent) had have high (37 to 42) level of farm power On the basis of innovation proneness, vegetable farmers majority (52.8 percent) had have high (above-9) level of farm power, Communicational attributes of the respondents On the basis of mass media exposure, vegetable farmers majority (40.4 percent) had have high (above - 11) level of farm power On the basis of contact with development agencies, vegetable farmers majority (34.8 percent) had have medium (7 - 10) level of farm power, Vegetables production potential at farmer’s field, Area of vegetables, B Hindi 750.5 hectare, Average productions of vegetables brinjal (13875), Duration of vegetable crops brinjal 141 days, Vegetables production potential at farmer’s field Cost of cultivation (Rs.) capsicum, Rs.14593.0, Net returns (Rs) capsicum, Rs.14593.0, cost benefit ratio cost benefits ratio was obtained *i.e.* radish (1:6.9). In addition to their routine work from their production of different vegetables.

**Keywords:** Socio economic background, vegetable, non-vegetable

### Introduction

Bundelkhand region of Uttar Pradesh and Madhya Pradesh is an agriculture dominating area. In this region the land holdings of the farmer are very high because population density is very low. But this region is divided into two parts according to irrigation facilities, cultivation and soil types. Few areas of this region are highly productive and availability of water is very high and having black cotton soil and other area of this region is totally rain-fed area and agriculture totally depends on monsoon and also having red soil (low productive soil). Agriculture sector is a life line of Bundelkhand because around 85% population of this region depends upon on agriculture for their livelihood. Agriculture is a dominating occupation in Bundelkhand but the land available and used for cultivation is lower when compared to other agriculture region of the India; only 60% of total lands are available for cultivation and out of which 42.3% land are irrigated lands of total land area in the Bundelkhand. Niranjana Sunil Kumar (2018) <sup>[11]</sup>.

**Corresponding Author:**  
**Arvind Kumar Bharati**  
Department of Agricultural  
Extension and communication,  
Research Scholar, Bhagwant  
University, Ajmer, Rajasthan,  
India

Being the largest component of Indian economy, agriculture has utmost importance for the vast number of people. Agriculture sector employs 54.6 percent of the total workforce in the country. Rapid rate of increasing population of India places constant pressure on agriculture to improve productivity (Girawale and Naik, 2016) [7]. Agriculture needs technology infusion to accelerate the growth, so that food sustainability is maintained with the concern of sustainability of natural resources and environment. Agriculture is still technology deficit resulting in lower yields per hectare of food grain, fruits and vegetables in our country as compared to the global average (Raghav *et al.*, 2020) [14]. Most population of farming community belongs to illiterate or low literate category, leads the minimum use of latest agricultural technologies in farm production system. Low income of farmers and its fluctuations causing detrimental effect on activities related to backward and forward linkage with agriculture sector. The important socioeconomic impact of unattractive image of agriculture sector on distress migration and increase in slum population in urban areas along with it can cause adverse effect on development of this sector in future also. Few seminal studies (Chand, *et al.*, 2015; Satyasai & Bharti, 2016 and Satyasai, 2016) [4 18] However, the definition of farmer was different in both surveys. India is the second largest producer of vegetables in the world, next to China. India produces 14 percent (146.55 million tonnes) of world's vegetables on 15 percent (8.5 million hectares) of world area under vegetables (Vanitha *et al.*, 2013) [25]. Keeping in view the above facts, the present study, was therefore carried out to "A comparative study of knowledge and adoption behaviour of vegetable and non-vegetable growers in Bundelkand Region". The present investigations were thus, proposed on communication vegetable and non-vegetable growers with the following object to study socio economic background of vegetable and non-vegetable growers

## Materials and methods

The present experiment entitled "A comparative study of knowledge and adoption behaviour of vegetable and non-vegetable growers in Bundelkand Region". The present investigations were thus, proposed on communication vegetable and non-vegetable growers with the following objectives: was carried out during Rabi 2018 and 2019. The study was conducted at district Jhansi in Bundelkhand region of Uttar Pradesh having five tehsil i.e. Jhansi, Mauranipur,

Garautha, Tehroli and Moth and There are eight development block i.e. Eight Blocks i.e. Babina, Badagaun, Bamaur, Bangra, Chirgaon, Gursarai, Mauranipur and Moth and There are 4 constituencies i.e. Babina, Jhansi Nagar, Mauranipur and Garautha in Jhansi District were purposively selected having potential of vegetable production and Strategic location near the city area of Jhansi to full fill the local demand of fresh vegetables. Vegetable growing villages 4 from each selected block were purposely selected. For this study 125 commercial vegetable growers having minimum 5 years of experience in vegetable cultivation were selected randomly. To collect information a schedule was specially developed. Participatory constraint analysis method was utilized where the respondent farmers were asked to mention the constraints, place the constraints in a four point continuum and rank them.

## Result

### 1. Socio economic background of vegetable and non-vegetable growers

The social economic investigations are mainly concerned with the social, economic means social groups in society. Generally the socioeconomic approach focuses on identifying the adaptive capacity of individuals or communities based on their internal characteristics such as age, education and size of land holding, social participation, and farm power and so many variations of these factors are responsible for the variations in socioeconomic characteristics of farmers. The results the socioeconomic statuses of the study area are given in the Table 1 both the year 2018 and 2019.

#### 1.A Personal socio attribution of the respondents

##### 1.A.1 On the basis of age

Observations recorded in the table -1 on majority of the vegetable farmers (45.6%) were in 22-58 years old middle manage group followed by 18-21 years old young man and 17.6 percent of vegetable farmers belonged to were in old age man group in the years 2018- 19.

##### 1.A.2 On the basis of education

Data recorded in the table -1 on the basis of response with regards to education a higher percentage of (27%) of respondents possessed high school followed by graduate (23.6 %), intermediate, (20.0%) and post graduate level (16.0%) respectively during the years 2018-19.

**Table 1:** The socioeconomic profile of vegetable growers during years Rabi 2018 and 2019).

S. No.	Categories of attributes	Categories of respondents			
		N-125		Percent	
A	<b>Personal socio attributes of the respondents</b>				
1.	<b>Age</b>	<b>2018</b>	<b>2019</b>	<b>Mean</b>	<b>%</b>
	18 – 21 years old Young man	26	31	28.50	22.8
	22 – 58 years old Middle man	53	61	57.00	45.6
	59 years above old man	19	25	22.00	17.6
2.	<b>Education</b>				
	High school	05	07	6.00	4.8
	Intermediate	23	27	25.00	20.0
	Graduate	26	33	29.50	23.6
	Post Graduate	17	23	20.00	16.0
3.	<b>Size of land holdings</b>				
	Marginal (0.5 to 1.0 ha)	36	41	38.50	30.8
	Small (1.1 to 1.5 ha)	63	55	59.00	47.2
	Medium (1.6 to 2.0 ha)	22	17	19.00	15.2
	Large (2.1 to 2.5 ha)	05	08	6.50	5.2

4.	Social participation				
	Low (1–10)	29	33	31.00	24.8
	Medium (11–20)	19	26	22.50	18.0
	High (21–30)	31	27	29.50	23.6
5.	Farm power				
	Low (Up to 5)	59	62	60.50	50.0
	Medium (6–15)	31	30	30.50	24.4
	High (above 16)	21	23	22.00	17.6
6.	Farm material process				
	Low (Up to 10)	53	62	57.50	46.0
	Medium (11–20)	41	47	44.00	35.2
	High (above 21)	32	38	35.00	28.0
B	<b>Responsible of the Physical attributes</b>				
1.	Response of Economics				
	Low (24–30)	35	32	33.50	26.8
	Medium (31–36)	47	49	48.00	38.4
	High (37–42)	39	43	41.00	32.8
2.	Scientific orientation				
	Low (24–30)	34	36	35.00	28.0
	Medium (31–36)	51	49	50.00	40.0
	High (37–42)	52	55	35.00	28.0
3.	Innovation proneness				
	Low (Up to 5)	43	27	37.00	29.6

**Table 2:** Vegetables production potential at farmer's field (Mean two consecutive years 2018 and 2019)

S. No.	Name of crop	Area (ha <sup>2</sup> )			Average production ('000' MT)			Duration (Days)		
		2018	2019	Pooled	2018	2019	Pooled	2018	2019	Pooled
1.	Bhind	516	5.85	260.9	6825	7321	7073	116	120	118
2.	Tomato	714	789	751.5	19725	20351	20038	120	110	115
3.	Urinal	716	785	750.5	13515	14235	13875	140	142	141
4.	Chillies	312	411	361.5	312	385	348.5	114	121	117.5
5.	Capsicum	412	385	398.5	285	312	298.5	112	119	115.5
6.	Cabbage	485	523	504.0	9806	10214	10010	110	106	108
7.	Cauliflower	510	586	548.0	8556	9625	9090.5	125	115	120
8.	Bitter Guard	563	512	537.5	1146	1095	1120.5	92	104	98
9.	Bottle Guard	685	635	660.0	2325	2435	2380	94	106	100
10.	Radish	350	421	385.5	2944	2832	2888	78	74	76
	<b>Total</b>	5263.0	5052.9	5157.9	65439	68805.0	67122	1101	1117	1109

**Table 3:** Revenue generate of vegetables production from per ha<sup>2</sup> area (Mean two consecutive years 2018- 2020)

S. No.	Name of crop	Yield ('000' MT)			Cost of cultivation (Rs.)			Net return (Rs.)			C:B. ratio
		2018	2019	Pooled	2018	2019	Pooled	2018	2019	Pooled	
1.	Bhind	6825	7321	7073	8153.0	9619.0	8886.0	17523.0	18214.0	17868.5	1:4.97
2.	Tomato	19725	20351	20038	4866.0	5996.0	5431.0	15857.0	17215.0	16536.0	1:3.29
3.	Urinal	13515	14235	13875	3932.0	4614.0	4273.0	9565.0	10985.0	10275.0	1:4.13
4.	Chillies	312	385	348.5	10525.0	11137.0	10831.0	28562.0	29564.0	29063.0	1:3.72
5.	Capsicum	285	312	298.5	14327.0	14859.0	14593.0	26365.0	28652.0	27508.5	1:5.31
6.	Cabbage	9806	10214	10010	5945.0	6859.0	6402.0	11240.0	13254.0	12247.0	1:5.23
7.	Cauliflower	8556	9625	9090.5	6780.0	7682.0	7231.0	12258.0	13892.0	13075.0	1:5.53
8.	Bitter Guard	1146	1095	1120.5	7121.0	7895.0	7508.0	14872.0	15623.0	15247.5	1:4.92
9.	Bottle Guard	2325	2435	2380	6993.0	7123.0	7058.0	16993.0	17123.0	17058.0	1:4.13
10.	Radish	2944	2832	2888	6532.0	6998.0	6765.0	9532.0	10998.0	10265.0	1:6.59

### 1.A.3 On the basis of land holding size

Investigated depicts that 47.2 percent of vegetable farmers were having 1.0-1.5 ha of land thus belonged to small farmers category followed by marginal farmers 30.8 percent in 0.5 - 1.0 ha of land holding, farmers who belonged to medium 1.5 - 2.0 ha of land categories were 15.2 percent and 5.2 percent in 2.0-2.5 ha of land large farmers respectively. Data also shows that none of vegetable farmers were having large land holding. Thus, it may be concluded that majority of the vegetable farmers were small farmers having 1.0 to 1.5 hectare of agricultural land. This is due to the fact that in Bundelkhand (U.P.), per capita agricultural land is comparatively less. The other reason may be the

fragmentation of the holdings due to nuclear family system.

### 1.A.4 On the basis of Social Participation

The in table 1 shows that the social participation of the vegetable farmers were the member of one organization are low (1-10) 24.8 percent followed by medium 18.0 percent were the member of 11-20 social participants organizations and In this way, 13.5 percent of vegetable farmers were associated with the high participants (21-30) organizations like Panchayats, cooperatives, youth-club, religious and political organization. It can also be concluded that only 24.8 percent of vegetable farmers were holding office in one or more organization.

### 1.A.5 On the basis of Farm Power

Data recorded on farm power of vegetables production from the farm shows the number of instruments the farmer has to deploy for its agricultural needs and allied farming. For measuring the variable, open response from farmers was recorded. Table 1 depicts that majority of vegetable farmers (50.0 percent) had have low level of farm power followed by medium level (24.4 percent) and high 17.6 percent With regards to Psychological attributes of the respondent's i.e. economic motivation, scientific orientation and innovation proneness among the respondents were studied. With regards to economic.

### 1.A.6 On the basis of farm material process

Data recorded on farm material process of vegetables production from the farm shows the number of Farm material process the farmer has to deploy for its agricultural needs and allied farming. For measuring the variable, open response from farmers was

Recorded. Table 1 depicts that majority of vegetable farmers farmer majority (46.0 percent) had have low (up to 10) level of farm power followed by medium level 11-21 (35.2 percent) and high (above 21) 28.0 percent respectively with regards to Psychological attributes of the respondent's i.e. economic motivation, scientific orientation and innovation proneness among the respondents were studied. With regards to economic.

## 1.B Responsible of the physical attributes

### 1.B.1 On the basis of responsible of economics

Data recorded on responsible of economics of vegetables production from the farm shows farmer has to deploy for its vegetables production in Bundelkhand needs and allied farming. For measuring the variable, open response from farmers was recorded. Table 1 depicts that majority of vegetable farmers majority (38.4 percent) had have medium (31 to 36) level of farm power followed by high level 11-21 (38.8 percent) and low (above 21) 26.8 percent respectively.

### 1.B.2 On the basis of scientific orientation

Observation on the basis of scientific orientation of vegetables production from the farm shows farmer has to deploy for its vegetables production in Bundelkhand needs and allied farming. For measuring the variable, open response from farmers was recorded. Table 1 depicts that majority of vegetable farmers majority (53.5 percent) had have high (37 to 42) level of farm power followed by medium level 31-36 (40.0 percent) and low (24-30) 28.0 Percent respectively.

### 1.B.3 On the basis of innovation proneness

Investigated depicts that on the basis of innovation proneness shows farmer has to deploy for its vegetables production in Bundelkhand needs and allied farming. For measuring the variable, open response from farmers was recorded. Table 1 depicts that majority of vegetable farmers majority (52.8 percent) had have high (above - 9) level of farm power followed by medium level 6 - 9 (39.6 percent) and low (up to 5) 29.6 percent respectively.

## 1.C Communicational attributes of the respondents

### 1.C.1 On the basis of mass media exposure

The data Investigated depicts that on the basis of mass media exposure shows farmer has to deploy for its vegetables production in Bundelkhand needs and allied farming. For

measuring the variable, open response from farmers was recorded. Table 1 depicts that majority of vegetable farmers majority (40.4 percent) had have high (above - 11) level of farm power followed by medium level 8 - 11 (34.0 percent) and low (up to 7) 22.4 percent respectively.

### 1.C.2 On the basis of contact with development agencies

Observation Investigated depicts that on the contact with development agencies shows farmer has to deploy for its vegetables production in Bundelkhand needs and allied farming. For measuring the variable, open response from farmers was recorded. Table 1 depicts that majority of vegetable farmers majority (34.8 percent) had have medium (7 - 10) level of farm power followed by high level above - 10 (33.6 percent) and low (up to 6) 23.6 percent respectively.

## 1.2 Vegetables production potential at farmer's field

### 1.2.1 Area of vegetables

The findings, income generation of the farmers through vegetable production of the investigation area in hectare are given in Table 2, reveals that the distribution of production potential of vegetables at farmer's field i.e. Bhindi, tomato, brinjal, chillies, capsicum, cabbage cauliflower, bitter guard, bottle guard and radish all were cultivated in brinjal 750.5 hectare followed by tomato 751.5, bottle guard 660.0 ha-1, cauliflower 548.0 ha-1, bitter guard 537.5 ha-1 cabbage 504.0 ha-1, Capsicum 398.5 ha-1, radish 385.8 ha-1, Chilli's 361.5 ha-1, and Bhind 260.9 ha-1 all vegetables were grown in total 5157.9 area.

### 1.2.2 Average productions of vegetables

Data observing that the findings Average vegetables productions of the farmers through vegetable producers in the MT investigation area in hectare are given in Table 2, reveals that the distribution of production potential of vegetables at farmer's field i.e. brinjal (13875), cabbage (10010.0), cauliflower (9090.5), Bhindi (7072.0), tomato (4007.0), bitter guard (1120.5), radish (2888.0), bottle guard (2380.0), Chillies (348.5), and capsicum (298.5) per ha-1 respectively.

### 1.2.3 Duration of vegetable crops

Investigation based data observing that the findings duration of vegetable crops of the farmers through vegetable producers in the MT investigation area in hectare are given in Table 2, reveals that the distribution of production potential of vegetables at farmer's field long duration i.e. brinjal, cauliflower, Bhindi, chillies, capsicum, tomato, cabbage, bottle guard, bitter guard and radish i.e. 141 days followed by 120 days, 118 days, 117.5 days, 115.5 days, 115 days, 108 days, 100 days, 98 days, and 76 days, respectively all vegetables duration.

## 1.3 Vegetables production potential at farmer's field

### 1.3.1 Cost of cultivation (Rs.)

Showed that on the results revealed that the cost of cultivation was obtained from the (Table-3) observed that on i.e. capsicum, Rs.14593.0 followed by chillies Rs.110813.0, Bhindi Rs.8886.0, bitter guard Rs.7508.0, cauliflower Rs.7231.0, bottle guard Rs.7058.0, radish Rs. 6765.0, cabbage Rs.6402.0, tomato Rs.4273.0, and brinjal Rs.14593.0 respectively cost of cultivation all vegetables crops.

### 1.3.2 Net returns (Rs)

The findings showed that on the results revealed that the net return was obtained from the (Table-3) observed that on i.e.

capsicum, followed by chillies, Bhind, bitter guard, cauliflower, bottle guard, radish, cabbage, tomato and brinjal respectively cost of cultivation all vegetables crops. Rs.14593.0 followed by Rs.110813.0, Rs.8886.0, Rs.7508.0, Rs.7231.0, Rs.7058.0, Rs. 6765.0, Rs.6402.0, Rs.4273.0 and Rs.14593.0

### 1.3.3 cost benefit ratio

The economic analysis of the inputs and out puts of the vegetables growers showed that on the basis of average production and cost involved in the production for the eight different Vegetables (Table-3) shows that the pooled cost benefits ratio was obtained i.e. radish (1:6.9), followed by cauliflower (1:5.53), capsicum (1:5.31), cabbage (1:5.23), Bhind (1:4.97), bitter guard (1:4.92), bottle guard(1:4.13), brinjal (1:4.13), chillies (1:3.72) and tomato (1:3.29) respectively cost of cultivation all vegetables crops.

The socioeconomic characteristics of farmers are important for better policy options. On the basis of the findings it is suggested that socio-economic status of the farmers can be improved by imparting technical knowledge/ training to vegetable farmers, increasing their education level and increasing their social participation are very needful. The above findings are conformity with the investigator Amlendra Kumar Verma *et al.*, (2019) <sup>[1]</sup> Socio- Economic profile of vegetable growers in Western Uttar Pradesh, India, Mohammad Imran Khan *et al.*, (2020) <sup>[10]</sup>, Socio-Economic Profile of Vegetable Growers under Horticulture based Module of Farmer FIRST Project in Balaghat (M.P.), India, Pradeep Kumar and OP Mishra (2018) <sup>[12]</sup> Communication behaviour of tribal vegetable growers in Ranchi district of Jharkhand state Prajakta Telange, DM Mankar and Trupti Rathod (2019) <sup>[13]</sup> Personal, socio- economic profile of the shadenet owners in Vidarbha region. Renu Jethi, *et al.*, Knowledge Level of Vegetable Growing Farmers in Hills of Uttarakhand: A Comparative Study. Dan Singh, *et al.*, (2018) <sup>[5]</sup> Effectiveness of Extension Methods for Knowledge and Skill Development. M.J. Azad, *et al.*, (2014) <sup>[8]</sup>, Singh Bhanu Pratap *et al.*, (2018) <sup>[5]</sup>, Rigzin Disket, *et al.*, (2021) <sup>[17]</sup>, Bala Brij, *et al.*, (2011) <sup>[3]</sup>, Ugur Atnan *et al.*, (2011) <sup>[23]</sup> Mishra Dheeraj and Kalyan Ghadei (2015) <sup>[9]</sup>, Ratna Jayant and Thakur D.R. (2015) <sup>[15]</sup>, Verma Kumar Amlendra *et al.*, (2019) <sup>[1]</sup> Tijjani, H *et al.*, (2018) <sup>[22]</sup>, Respikius M. *et al.*, (2020) <sup>[16]</sup>, Ghosh Kumar Mithun and Md. Tohrul Islam (2020) <sup>[6]</sup>, problem perceived by the farmers in vegetable cultivation.

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